AVGR & DASH RIDER SURVEY SUMMARY

DECEMBER 2019
CITY OF GRAND RAPIDS & MAY MOBILITY
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Introduction

The Grand Rapids Autonomous Vehicle Initiative (AVGR) is a collaborative, public-private pilot to test Grand Rapids’ readiness for self-driving vehicles. The pilot reflects the city’s unique positioning as a real-world test environment, a rich history of implementing and activating new technologies, and an economy that supports public-private collaborations. AVGR also reflects Grand Rapids’ Strategic Plan commitment to enhancing mobility options for all residents.

Autonomous vehicles operate along the existing DASH West bus route and utilize its 20 passenger stops. DASH West is a 3.2-mile transit circulator that runs through the heart of downtown Grand Rapids. This route connects both sides of the Grand River in a thoughtful and intentional way, building a stronger community through mobility.

In December 2019, May Mobility and the City of Grand Rapids conducted a rider survey to capture initial public impressions of the AVGR pilot. A survey of DASH riders, on both the West and North routes, was conducted simultaneously to compare service impressions and expectations of both services.

AVGR Essentials

- AVGR is a $650k Public-Private Partnership
- Pilot funded 1/3 public funding, 2/3 private funding
- Partners include: May Mobility, City of Grand Rapids, Consumers Energy, Start Garden, Seamless, Faurecia, Gentex, Rockford Construction, Steelcase, Planet M/MEDC
- Year-long pilot beginning July 2019, with potential for additional year extension
- 4 self-driving vehicles on route
- 20 passenger stops on DASH West route
- Vehicles negotiate 30 traffic lights on route
- Vehicles make 12 turns, with 3 left turns
- DASH West route provides connectivity to 10 parking facilities
- Wheelchair accessible vehicle service launched in January 2020
- AVGR provides approximately 8,000 rides per month
- AVGR information available to public at grandrapidsmi.gov/DASH
- #AVGR was established to promote the service via social media
Survey Administration

The surveys were conducted using both hard copies and digital options. QR codes were posted in the vehicles, links to the surveys were posted on the City’s website, Mobile GR and May Mobility staff distributed survey copies at stops, pilot partners promoted on social media, and surveys were available on DASH buses and in AVGR vehicles.

To enhance accessibility, paper surveys were available in both English and Spanish.

The survey shows the percentage of new riders is significantly higher for AVGR than for DASH. While AVGR ridership is increasing steadily, ongoing outreach and communication is aimed at reaching those who haven’t yet tried AVGR.

<table>
<thead>
<tr>
<th>Metric</th>
<th>AVGR</th>
<th>DASH</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 2019 riders</td>
<td>7,422</td>
<td>23,469</td>
</tr>
<tr>
<td>Total Survey Respondents</td>
<td>117</td>
<td>220</td>
</tr>
<tr>
<td></td>
<td>(1.6% of rider total)</td>
<td>(.94% of rider total)</td>
</tr>
<tr>
<td>Digital Responses</td>
<td>38%</td>
<td>33%</td>
</tr>
<tr>
<td>New Riders</td>
<td>21%</td>
<td>6%</td>
</tr>
</tbody>
</table>
Findings and Insights

Usage

Survey respondents are frequent, experienced public transit users and use transit for a variety of needs including work, entertainment, errands, and school. While respondents of both surveys indicated previous and current public transit use, significantly more DASH riders use single-occupancy vehicles as their primary mode of transportation.

Survey respondents are comfortable using public transit

- More than 79% of DASH riders surveyed have previously used public transit, with the primary use being in Grand Rapids on DASH or The Rapid buses
- Of AVGR riders surveyed, 90% have previously used public transit, with the primary use being in Grand Rapids on DASH or The Rapid buses

DASH and AVGR riders use the services for similar purposes

- Travelling for work accounts for about 45% of both AVGR and DASH respondents' trips
- Similarly, travel for errands accounts for about 20% of trips for both AVGR and DASH
- Despite the large proportion of work trips, over half of respondents (55%) reported using AVGR for a purpose other than work

Survey respondents are repeat riders

- 70% of AVGR respondents use the service at least once a week
- 81% of DASH respondent use the service at least once a week

“I love the DASH! I really appreciate GR providing this amazing service. I use it daily for work, and on the weekends with friends and family for dinner and drinks.”

“AVGR is very convenient. Love the conversation with drivers!”
Gateway to Transit

The survey sought to determine whether AVGR and DASH serve as transitional modes to fixed route transit. Riders were asked whether AVGR or DASH caused them to try other public transit in the area or in another city. Some survey respondents had never tried public transit in Grand Rapids and seemed more willing to try other public transportation options after trying AVGR and DASH.

The availability of frequent service and new transit modes appear to have some impact on local decisions to try transit.

- Almost 15% of AVGR respondents had never tried any public transit before, whether in Grand Rapids or another city
- Combined survey results show roughly 30% of AVGR and DASH riders chose to use another public transit service as a result of riding AVGR or DASH
- 24% of AVGR respondents said that AVGR caused them to try DASH, and 12% said AVGR caused them to try The Rapid or transit in another city

![Did riding AVGR cause you to try DASH or other public transit?](chart)

- 72% said No
- 24% said Yes (The Rapid, Transit in Another City)
- 12% said Yes (DASH Bus)

“I would be great to add more routes in (the) city.”

“I love this service. If The Rapid had more convenient routes for my life, our family would use it.”

“I enjoy the transportation w/o having to pay.”
Preference

DASH and AVGR riders are flexible. Roughly half the survey respondents are open to using either service, with about a quarter choosing the first to arrive at their stop. Most riders indicated their wait times for the services were “just right.”

Safety

Perceived safety was a main point of interest in administering the survey. Riders of both DASH and AVGR reported feeling safe while using the services. While more than a quarter of the respondents didn’t know the AVGR vehicles were self-driving, almost 95% reported feeling secure while riding after receiving this information.

Respondent feedback identified improvement opportunities for both services to enhance safety, including:

- Additional lighting at some stops
- Covered shelters at all stops
- Trunk space in AVGR for bulky carry-on items

“I like AVGR shuttles but just prefer the DASH because I have more personal space and don’t have to communicate my stop verbally.”

“Covered shelters at all stops, especially in winter/rain.”
Accessibility

Both the City of Grand Rapids and May Mobility are committed to providing accessible transportation. Recent accessibility upgrades to both DASH and AVGR were positively acknowledged in respondents’ comments.

- Bench seats in AVGR

  “I like the new bench seats. Because they’re higher makes it easier to get in and out.”

  “I love the new seats! They are so comfortable, and I’d love to see them in more vehicles!”

- Addition of verbal stop announcements in DASH buses

  “A huge shout out and thank you for adding the additional orientation/stop announcements to the DASH buses. Previously, unless you were familiar with where the DASH stop was or with landmarks it was a challenge to know when to signal the driver for a stop. The announcements allow you to know where you are along the route and when your stop is coming up. This is a significant enhancement to rider services. Again, a big thank you for this improvement.”
Perceived Impact on Grand Rapids

Grand Rapids is committed to enhancing mobility options for its residents. Overall, nearly 90% of survey respondents believe the AVGR pilot has positively impacted Grand Rapids. Remarks by riders who felt negatively reflect a lack of understanding of the service or a lack of trust in the technology. Negative comments reveal areas of opportunity for more focused public information and outreach, in particular the role of fleet attendants in vehicles.

“Felt worried about being hit .. uncertain I enjoyed.”

“They do have drivers in them so to say they operate on their own is false.”

“Why do you call it autonomous vehicles if there is always an operator in the car?”

“The City spends too much time, effort, and money on DASH services. Why are the services replicated by "self-driving cars" that someone is obviously driving?”

“The little AV cars seem really rickety to me. I don’t think they were made with longevity in mind which may be OK for the pilot test.”
Demographics

Providing demographic information was optional for survey respondents. The data for each demographic category shows percentages of total responses to the specific category, not necessarily to the entire survey.

**Gender**

AVGR survey respondents were almost evenly split in gender, while DASH respondents were more often male at 55%.

**AVGR: What gender do you identify with?**

- 49% Female
- 48% Male
- 3% Prefer not to answer

**DASH: What gender do you identify with?**

- 55% Female
- 43% Male
- 1% Other/Non-binary
- 1% Prefer not to answer
Age

The majority of both AVGR and DASH riders are aged 35 and under. A higher percentage of AVGR respondents (28%) reported being aged 15-25 than DASH (19%). A higher percentage of DASH respondents (26%) reported being aged 36-45 than AVGR (15%). These results may show a preference for students to use AVGR, while those using transit for work may prefer DASH.
Income Level

AVGR riders reported higher income levels overall, but both groups reported similar percentages within most brackets.

The greatest variances in percentages occurred in the $50,000 - 74,999 and $75,000 - 99,999 brackets. More than a third (38%) of AVGR respondents reported income within those two brackets, versus 26% of DASH respondents. The trend continues in the $100,000 + bracket, with AVGR showing a slightly higher percentage of respondents.

In the lower income brackets ($50,000 and below), DASH riders showed slightly higher percentages.
**Race/Ethnicity**

Results of this question do not show significant preference for either service. Respondents identifying as “White” made up the greatest number of riders on both AVGR and DASH. About 4% more DASH riders identified as White than AVGR riders. Those responding with a race or ethnicity other than White made up a quarter of AVGR and DASH respondents.
Appendix

AVGR Survey (English)

<table>
<thead>
<tr>
<th>Grand Rapids Autonomous Vehicle Initiative - #AVGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How are we doing?</td>
</tr>
<tr>
<td>Thank you for taking this brief AVGR Rider Survey! Your responses and feedback will help guide the AVGR pilot project.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>2. What is the primary purpose of your trip today?</td>
</tr>
<tr>
<td>□ Work □ Errands □ School □ Entertainment</td>
</tr>
<tr>
<td>□ Other ____________________</td>
</tr>
<tr>
<td>3. Which of the following did you use before riding AVGR? Select all that apply.</td>
</tr>
<tr>
<td>□ DASH bus □ Public transit in another city</td>
</tr>
<tr>
<td>□ The Rapid □ Haven’t used public transit before</td>
</tr>
<tr>
<td>4. Did riding AVGR cause you to try DASH or other public transit? Select all that apply.</td>
</tr>
<tr>
<td>□ DASH bus □ Public transit in another city</td>
</tr>
<tr>
<td>□ The Rapid □ No</td>
</tr>
<tr>
<td>5. How frequently do you use AVGR?</td>
</tr>
<tr>
<td>□ First time □ Daily/Almost daily □ Weekly □ Monthly</td>
</tr>
<tr>
<td>6. If you’re a regular AVGR rider, do you have a preference?</td>
</tr>
<tr>
<td>□ AVGR □ DASH □ First to arrive at the stop □ No preference</td>
</tr>
<tr>
<td>7. Before riding, did you know AVGR vehicles were self-driving?</td>
</tr>
<tr>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>8. Do you feel safe riding AVGR, knowing that it’s self-driving?</td>
</tr>
<tr>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>9. How does the AVGR project impact Grand Rapids?</td>
</tr>
<tr>
<td>□ Positively □ Neither positively nor negatively □ Negatively</td>
</tr>
</tbody>
</table>

grandrapidsmi.gov/AVGR

(continued on other side)
10. What’s your primary mode of transportation?
- Drive alone
- Bike
- Walk
- Bus / Transit
- Taxi / Lyft / Uber
- Carpool
- Other

11. How long was your wait for a shuttle this trip?
- Just right
- Too long

12. Do you have any other feedback or information for us to consider about the AVGR pilot?

---

Below are some optional questions. Your answers will help us determine if our services are reaching a representative cross-section of Grand Rapids. We’ll use this data in ensuring program dollars are spent equitably. Responses are confidential.

13. Zip code: 
14. Age:

15. What gender do you identify with?
- Female
- Male
- Prefer not to answer
- Other

16. What race or ethnicity do you identify with? Select all that apply.
- White
- Hispanic, Latino or Latinx
- Asian
- Black or African American
- Southwest Asian, North African or Middle Eastern
- American Indian or Alaskan Native
- Native Hawaiian or Other Pacific Islander
- Other Race or Ethnicity
- Prefer not to answer

17. Which best describes your annual income?
- Less than $10,000
- $10,000 – 24,999
- $25,000 – 49,999
- $50,000 – 74,999
- $75,000 – 99,999
- $100,000 or more
- Prefer not to answer

18. We’d like to keep in touch! If you’d like to participate in future surveys about the AVGR pilot, please enter your email address. Your email address will be separated from demographic and survey information.

Email address:
AVGR Survey (Spanish)

Iniciativa de Vehículos Autónomos - #AVGR

1. ¿Cómo vamos?

¡Gracias por tomar esta breve encuesta para pasajeros de AVGR! Sus respuestas y comentarios ayudarán a guiar el proyecto piloto de AVGR.

2. ¿Cuál es el propósito principal de su viaje hoy?

☐ Trabajo    ☐ Encargos    ☐ Escuela    ☐ Entretenimiento
☐ Otro

3. ¿Cuál de los siguientes probó antes de usar AVGR? Seleccione todas las que correspondan.

☐ Autobús DASH    ☐ Transporte público en otra ciudad
☐ The Rapid    ☐ No he usado el transporte público antes

4. ¿Viajar en AVGR le hizo probar DASH u otro transporte público?

Seleccione todas las que correspondan.

☐ Autobús DASH    ☐ Transporte público en otra ciudad
☐ The Rapid    ☐ No

5. ¿Con qué frecuencia usa AVGR?

☐ Primera vez ☐ Diario/Casi a diario    ☐ Semanal    ☐ Mensual

6. ¿Si es un pasajero regular de AVGR, tiene alguna preferencia?

☐ AVGR    ☐ DASH    ☐ Primero en llegar    ☐ Sin preferencia

7. ¿Antes de subir, sabía que los vehículos de AVGR eran autónomos?

☐ Sí    ☐ No

8. ¿Te sientes seguro subiendo a AVGR, sabiendo que es autónomo?

☐ Sí    ☐ No

9. ¿Qué impacto tiene el proyecto de AVGR en Grand Rapids?

☐ Positivo    ☐ Ni positivo ni negativo    ☐ Negativo

grandrapidsmi.gov/AVGR

(continúa al otro lado)
10. ¿Cuál es su principal medio de transporte?
☐ Conducir solo    ☐ Bicicleta    ☐ Caminar    ☐ Autobús / Transporte público    ☐ Taxi / Lyft / Uber    ☐ Vehículo compartido
☐ Otro ______________

11. ¿Cuánto tiempo esperó por transporte este viaje?
☐ Justo    ☐ Demasiado largo

12. ¿Tiene algún otro comentario o información que podamos considerar sobre el piloto AVGR?

Debajo hay algunas preguntas opcionales. Sus respuestas ayudarán a determinar si nuestros servicios llegan a una sección representativa de Grand Rapids. Utilizaremos estos datos para garantizar que el dinero se gaste equitativamente. Las respuestas son confidenciales.


15. ¿Con qué género se identifica?
☐ Femenino    ☐ Masculino    ☐ Prefiero no responder
☐ Otro ______________

16. ¿Con qué raza o etnicidad se identifica? Seleccione todas las que correspondan.
☐ Blanco    ☐ Hispano, Latino o Latinx    ☐ Asiático
☐ Negro o Afroamericano
☐ Sudoeaste Asiático, Norteafricano o del Medio Oriente
☐ Indígeno de las Américas o Nativo de Alaska
☐ Nativo de Hawái u otra Isla del Pacífico
☐ Otra Raza o Etnicidad    ☐ Prefiero no responder

17. ¿Cuál describe mejor su ingreso anual?
☐ Menos de $10,000    ☐ $10,000 – 24,999
☐ $25,000 – 49,999
☐ Prefiero no responder

18. ¡Nos gustaría estar en contacto! Si desea participar en futuras encuestas sobre el piloto de AVGR, por favor compartá su correo electrónico. Su correo electrónico se separará de la información demográfica y de la encuesta.

Correo electrónico: ____________________________
DASH Survey (English)

DASH Bus Rider Survey

1. How are we doing?

Thank you for taking this brief DASH Rider Survey! Your responses and feedback will help guide our DASH Bus service.

2. What is the primary purpose of your trip today?

- Work
- Errands
- School
- Entertainment
- Other

3. Do you know there are free self-driving vehicles (AVGR) available in addition to DASH buses along the DASH West route?

- Yes
- No

4. Which of the following did you use before riding DASH? Select all that apply.

- AVGR
- Public transit in another city
- The Rapid
- Haven't used public transit before

5. Did riding DASH cause you to try any other public transit? Select all that apply.

- AVGR
- Public transit in another city
- The Rapid
- No

6. How frequently do you use DASH?

- First time
- Daily/Almost daily
- Weekly
- Monthly

7. If you're a regular DASH rider, do you have a preference?

- DASH
- AVGR
- First to arrive at the stop
- No preference

8. Did you know DASH buses are available until 1 a.m. Thursday to Saturday and from 10 a.m. to 8 p.m. on Sunday?

- Yes
- No

9. How long was your wait for a DASH bus this trip?

- Just right
- Too long

grandrapidsmi.gov/DASH

(continued on other side)
10. What’s your primary mode of transportation?
☐ Drive alone  ☐ Bike  ☐ Walk  ☐ Bus / Transit
☐ Taxi / Lyft / Uber  ☐ Carpool  ☐ Other ________________

11. Do you feel safe riding DASH?
☐ Yes  ☐ No
If “no,” why? ________________

12. Do you have any other feedback or information for us to consider about our DASH service?

Below are some optional questions. Your answers will help us determine if our services are reaching a representative cross-section of Grand Rapids. We’ll use this data in ensuring program dollars are spent equitably. Responses are confidential.


15. What gender to you identify with?
☐ Female  ☐ Male  ☐ Prefer not to answer
☐ Other ______________

16. What race or ethnicity do you identify with? Select all that apply.
☐ White  ☐ Hispanic, Latino or Latinx  ☐ Asian
☐ Black or African American  ☐ Southwest Asian, North African or Middle Eastern
☐ American Indian or Alaskan Native  ☐ Native Hawaiian or Other Pacific Islander
☐ Other Race or Ethnicity  ☐ Prefer not to answer

17. Which best describes your annual income?
☐ Less than $10,000  ☐ $50,000 – 74,999
☐ $10,000 – 24,999  ☐ $75,000 – 99,999
☐ $25,000 – 49,999  ☐ $100,000 or more
☐ Prefer not to answer

18. We’d like to keep in touch! If you’d like to participate in future surveys about our DASH service, please enter your email address. Your email address will be separated from demographic and survey information.

Email address: ________________________________
DASH Survey (Spanish)

Encuesta para pasajeros de DASH

1. ¿Cómo vamos?
¡Gracias por tomar esta breve encuesta para pasajeros de DASH! Sus respuestas y comentarios ayudarán a guiar el servicio de DASH.

2. ¿Cuál es el propósito principal de su viaje hoy?
☐ Trabajo   ☐ Encargos   ☐ Escuela   ☐ Entretenimiento
☐ Otro

3. ¿Sabía que hay disponibles vehículos autónomos gratuitos (AVGR) además de los autobuses DASH en la ruta DASH West?
☐ Sí   ☐ No

4. ¿Cuál de los siguientes probó antes de usar DASH? Selecciona todas las que correspondan
☐ AVGR   ☐ Transporte público en otra ciudad
☐ The Rapid   ☐ No he usado el transporte público antes

5. ¿Viajó en DASH y probó otro transporte público?
Selecciona todas las que correspondan.
☐ AVGR   ☐ Transporte público en otra ciudad
☐ The Rapid   ☐ No

6. ¿Con qué frecuencia usa DASH?
☐ Primera vez   ☐ Diario/Casi a diario   ☐ Semanal   ☐ Mensual

7. ¿Si es un pasajero regular de DASH, tiene alguna preferencia?
☐ DASH   ☐ AVGR   ☐ Primero en llegar   ☐ Sin preferencia

8. ¿Sabió que los autobuses de DASH están disponibles hasta la 1 a.m. jueves a sábado y de 10 a.m. a 8 p.m. los domingos?
☐ Sí   ☐ No

9. ¿Cuánto tiempo esperó por transporte este viaje?
☐ Justo   ☐ Demasiado largo

Mobile GR & Parking Services
CITY OF GRAND RAPIDS
grandrapidsmi.gov/DASH

(continúa al otro lado)
Encuesta de DASH - Página 2

10. ¿Cuál es su principal medio de transporte?
☐ Conducir solo ☐ Bicicleta ☐ Caminar ☐ Autobús / Transporte público
☐ Taxi / Lyft / Uber ☐ Vehículo compartido ☐ Otro ______________

11. ¿Se siente seguro subiendo a DASH?
☐ Sí ☐ No
Si “no,” por qué? __________________________________________

12. ¿Tiene algún otro comentario o información que podamos considerar sobre el servicio de DASH?

Debajo hay algunas preguntas opcionales. Sus respuestas ayudarán a determinar si nuestros servicios llegan a una sección representativa de Grand Rapids. Utilizaremos estos datos para garantizar que el dinero se gasta equitativamente. Las respuestas son confidenciales.


15. ¿Con qué género se identifica?
☐ Femenino ☐ Masculino ☐ Prefiero no responder
☐ Otro ______________

16. ¿Con qué raza o etnicidad se identifica? Seleccione todas las que correspondan.
☐ Blancx ☐ Hispano, Latino o Latinx ☐ Asióticx
☐ Negrx o Afroamericanx ☐ Sudoeastx Asióticx, Norteamericanx o del Medio Oriente
☐ Indígenx de las Américas o Nativx de Alaska
☐ Nativx de Hawaií u otra Isla del Pacífico
☐ Otra Raza o Etnicidad ☐ Prefiero no responder

17. ¿Cuál describe mejor su ingreso anual?
☐ Menos de $10,000 ☐ $50,000 – 74,999
☐ $10,000 – 24,999 ☐ $75,000 – 99,999
☐ $25,000 – 49,999 ☐ $100,000 o más
☐ Prefiero no responder

18. ¡Nos gustaría estar en contacto! Si desea participar en futuras encuestas sobre el piloto de DASH, por favor comparta su correo electrónico. Su correo electrónico se separará de la información demográfica y de la encuesta.

Correo electrónico: ____________________________